



MPE/RF EXPOSURE TEST REPORT

FCC CFR 47 Part 1.1307

Report No.: CATA07-U2 Rev A FCC MPE

Company: Catapult Sports Pty Ltd

Model Name: VR7601

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To: FCC CFR 47 Part 1.1307

Test Report Serial No.: CATA07-U2 Rev A FCC MPE

This report supersedes: NONE

Applicant: Catapult Sports Pty Ltd Company
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Australia

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This Test Report is Issued Under the Authority of:

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MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

Calculations for Maximum Permissible Exposure Levels

Power Density = P_d (mW/cm²) = $EIRP / (4 * \pi * d^2)$

$EIRP = P * G$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

Numeric Gain = $10^{(G \text{ (dBi)}/10)}$

The calculations in the table below use the highest conducted power values together with the antenna gain specified for the EUT. These calculations represent worst case in terms of the exposure levels.

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Power Density (mW/cm ²) @ 20cm	Power Density Limit (mW/cm ²)	Min Calculated safe distance for Limit (cm)
6489.6	5.39	3.46	-13.74	0.04	0.00003	1.00	0.108
2400.0 - 2483.5	4.79	3.01	19.81	95.72	0.05738	1.00	4.791
5150.0 - 5250.0	4.03	2.53	13.98	25.00	0.01258	1.00	2.243
5725.0 - 5850.0	3.84	2.42	13.97	24.95	0.01202	1.00	2.192

Note: for mobile or fixed location transmitters the minimum separation distance is 0.20m, even if calculations indicate the MPE distance to be less.

Test Data

The VR7601 has two radios;-

1) Wideband radio tested by MiCOM Labs with test results reported in MiCOM test report CATA07-U9 Rev A Catapult VR7601 FCC 15.250.

2) Wi-Fi radio tested by SGS with results reported in the following reports

a) 2400.0 - 2483.5 MHz Wi-Fi: SGS Test Report T190606W03-RP1

b) 5150-5250, 5725 - 5850 MHz Wi-Fi: SGS Test Report T190606W03-RP2

Simultaneous Operation

Assessment for simultaneous operation

The VR7601 has the capability to simultaneously transmit on two modes;

1) 5.1 or 5.8 GHz + 6.5 GHz WB

2) 2.4 GHz + 6.5 GHz WB

Worst case transmission = 2.4 GHz Wi-Fi + UWB

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Power Density (mW/cm ²) E _i	Power Density Limit (mW/cm ²) E _{ref}	E _i /E _{ref}
6489.6	5.39	3.46	-13.74	0.04	0.00003	1.00	0.00003
2400.0 - 2483.5	4.79	3.01	19.81	95.72	0.05738	1.00	0.05738

Total Evaluation E_i/E_{ref}: Summation = **0.05741**

Note: for mobile or fixed location transmitters the minimum separation distance is 0.20m, even if calculations indicate the MPE distance to be less.

The summation is <1 therefore the complies

The Total Evaluation was calculated using the formula:

$$\sum_{i=1}^n E_i / E_{ref} \leq 1$$

Where

E_i: calculated E-field Strength for transmitter

E_{ref}: E-field strength related limit



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